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ORIGINAL PAPER

Cross-National Yardstick Comparisons: A Choice Experiment on a Forgotten Voter Heuristic

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Abstract Comparing performance between countries is both a theoretically and intuitively useful yardstick for voters. Cross-national comparisons provide voters with heuristics that are less cognitively demanding, less ambiguous, and less uncertain than solely national, absolute performance measurements. We test this proposition using a unique, choice experiment embedded in the 2011 Danish National Election Study. This design allows to contrast cross-national comparisons with more traditional national sociotropic and egotropic concerns. The findings suggest that voters are strongly influenced by cross-national performance comparisons—even when accounting for classic national sociotropic and egotropic items. Specifically, voters respond strongly to how the prospective wealth of Denmark evolves relative to the neighboring Sweden. Interestingly, voters are more negative in their response to cross-national losses compared to their positive response to cross-national gains—indicating a negativity bias in voters' preferences.

Keywords Yardstick comparison · Social comparison · Economic voting · Conjoint experiment · Discrete choice experiment

Do voters look to the performance of other countries when evaluating their own country's performance? Intuitively, the global interdependence of economy, media,

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and culture should imply that national outcomes find it difficult to evade the economic performance of other countries. In fact, recent macro-level studies suggest that voters respond to the observed performance of other countries (Kayser and Peress 2012). Furthermore, macro-level studies of retrospective economics at the subnational levels also find evidence of a comparative yardstick across a variety of jurisdictions influencing voter behavior and political behavior, e.g., including the US states (Besley and Case 1995), Spanish municipalities (Bosch and Solé-Ollé 2007), and Flemish municipalities (Vermeir and Heyndels 2006). Theoretically, both the yardstick theory in economics (Salmon 1987) and the social comparison theory in social psychology (Festinger 1954) provide theoretical reasons for why the voters should rely on comparative performance. From social comparison theory, we know that individuals tend to compare their opinions and abilities to those of others as a means of obtaining fast, certain, and credible assessments of their own standing (Mussweiler and Epstude 2009; Mussweiler and Posten 2011). In Salmon's (1987) yardstick theory, such social comparisons become a means of obtaining more accurate and reliable information about the incumbent government.

However, current micro-level public opinion research has yet to include how voters look across borders when making prospective evaluations of their own national performance (Linos 2011; Kayser and Peress 2012). This article seeks to test whether voters make use of cross-national yardstick comparisons. We hereby aim to provide micro-level evidence for findings of cross-national yardsticks at the macro-level. This is not a trivial addition as macro-level studies assume these yardsticks concerns to exist at the level of voters. However, without direct evidence of cross-national evaluations among voters, we cannot rule out that macro-level studies rests on an ecological fallacy, e.g., ascribing nationally observed yardstick indicators to comparative evaluations among individuals. Furthermore, while the existing studies are retrospective and observational we focus on prospective voter evaluations within an experimental framework. In prospective evaluations, voters consider their preferences for future prospects, i.e., they assess future conditions given the outcomes that different policy makers can be expected to deliver. Focusing on prospective evaluations rules allows us to focus on prospective policy preferences and evaluate these effects up against actual voting behavior. We also believe this focus is merited by the fact that there is no existing experimental research estimating the importance of cross-national yardstick to voters on *any* outcome measure. While retrospective concerns are generally found to be more important for voter evaluation and party choice the importance of prospective concerns is far from trivial (Bellucci and Lewis-Beck 2011; Lewis-Beck and Stegmaier 2013). Specifically, we estimate how Danish voters evaluate the importance of prospective economic performance relative to the neighboring country of Sweden. We argue that voters will compare their country's economic performance to that of other relevant countries rather than evaluate performance in isolation, i.e., we expect votes to not only look at their country's national performance (e.g., GDP growth, inflation, unemployment) but also to compare this economic development to that of other relevant countries. We focus on *prospective* evaluations of the economy for three reasons. First, experimentally manipulating retrospective evaluations convincingly is difficult as most respondents will have experienced the actual economic performance in the previous period. A prospective study allows us to experimentally manipulate future hypothetical scenarios which are unbounded by the historically realized performance (i.e. strong internal validity). Secondly, in retrospect voters will not only have other nations as an informative social yardstick, they will also be attuned to salient historical reference points. By analyzing prospective evaluations we have the opportunity to isolate the cross-national yardsticks from potential confounding historical ones. Thirdly, retrospective evaluations will often be highly affected by motivated reasoning linking respondents' party choice and evaluations of the economy (Michelitch et al. 2012). As our study is prospective we avoid this bias of motivated reasoning. Nevertheless, we are able to compare the effect of our prospective evaluations with actual voting behavior as our study was embedded in the Danish National Election Study. That is, we can test how the prospective evaluations are meaningfully mediated by party choice. This allows to evaluate how the prospective nature of our measure are connected to actual voting behavior. In addition, we adopt the notion of asymmetrical evaluation of losses and gains in a context of cross-national yardstick comparison. Prospect theory (Kahneman and Tversky 1979; Tversky and Kahneman 1991), endowment effects (Kahneman et al. 1991), and the negativity bias (Lau 1982, 1985) have provided a theoretical basis for understanding asymmetries in voter research. We argue that voters care more about avoiding future comparative losses than making future comparative gains (Levy 2003). Some studies of retrospective economic voting show that voters have asymmetrical responses in their evaluation of absolute losses and gains; politicians are punished for losses but are not praised for similar gains (Campbell et al. 1960; Bloom and Price 1975; Claggett 1986; Headrick and Lanoue 1991; Kiewiet 1983; Lanoue 1987; Mueller 1973; Nannestad and Paldam 1997). Still on balance the existing literature is divided on the relevance of a negativity bias (Lewis-Beck and Stegmaier 2013). Existing macro-level studies analyzing cross-border comparisons have either ignored these asymmetries or failed to find any support for them (Besley and Case 1995; Kayser and Peress 2012). However, there are good reasons to argue that the socially comparative nature of "looking across borders" should evoke a stronger voter preference for not lagging behind.

Voting involves choosing a candidate or party representing a mix of policies and policy outcomes. When making real world prospective evaluations, voters are faced with a number of tradeoffs. We contrast the effect of comparative evaluations with the traditional absolute voter evaluations of egotropic versus sociotropic concern used in national election surveys across the world. Previously, researchers focused on whether national economy or personal finances constitute the most important factor for evaluating prospectives (Dorussen and Palmer 2002); however, today researchers have provided much evidence for that sociotropic concerns tend to dominate egotropic motives (Lewis-Beck and Paldam 2000; Stubager et al. 2014; Singer and Carlin 2013). By contrasting cross-national comparisons to these concerns, we can estimate the importance of these comparisons relative to the more well-established explanations of the voter evaluations. In this sense the classic egotropic and sociotropic motives serves as a validation and comparison of our cross-national yardstick measure. However, this approach also poses a serious methodological challenge. We introduce a methodological innovation into the study of cross-national evaluations. The mix of policies and policy outcomes is often strongly correlated, and it is therefore difficult to assign any specific relative importance to the voters' preferences. We are therefore faced with a serious challenge when contrasting how comparative yardstick information is weighted compared to competing performance measures. For instance, the absolute national performance will be highly correlated to the relative cross-national performance and vice versa. Thus, omitting one factor feeds the other. To address this challenge, we propose a unique choice experiment that allows us to disentangle how voters simultaneously evaluate sets of cross-national and national policies and policy outcomes. The purpose of the choice experiment is to show that voters' preferences can be elicited using validated stated preference methods. This framework has yet to be fully utilized in political science in general and voter evaluation studies in particular (for some recent exceptions, see Hainmueller et al. 2014; Bechtel et al. 2012; Hansen and Bech 2007, 2012).

The findings indicate that voters find prospective cross-national comparative performance to be highly important, even when compared to the strong competing tradeoffs of egotropic and sociotropic concerns regarding personal taxation and employment levels. The national economic performance seems to have a hard time hiding from that of other countries. Furthermore, we find evidence that relative comparative losses are more negatively evaluated than similar comparative gains are positively evaluated. To our best knowledge, these findings constitute the first micro-level experimental evidence of the relative importance of cross-national yardsticks for voter's evaluations.

Why Voters Should Use Cross-National Yardstick Comparisons

Defining what constitutes good or bad economic performance is not easy (Hopkins 2011; Ansolabehere et al. 2012). Voters are faced with substantial uncertainty when deciding on national policies and outcomes (Salmon 1987; Downs 1957; Huber et al. 2012). Not only is it cognitively demanding to know and understand the development of economic performance indicators (such as the GNP, GNI, and unemployment rates), but such indicators also often become politically contested during election campaigns (Vavreck 2009). Furthermore, the responsibility for economic performance is also political contested, and small countries with an open economy can, to some extent, place the blame for bad economic performance on global developments (Stubager et al. 2013; Bellucci et al. 2012). This argument is in line with a number of studies reporting that national outcomes are less important for economic voting in countries highly integrated with the global economy (Hellwig 2001; Hellwig and Samuels 2007; Duch and Stevenson 2008, 2010; Kayser and Peress 2012).

One way of dealing with the difficult question of performance is to look across borders for a yardstick or benchmark (Kayser and Peress 2012). Healy and Malhotra (2013) point to how voters need a benchmark in order to assess the economic performance. One such benchmark is cross-national comparisons. In other words, voters can use cross-national comparisons as a yardstick for distinguishing between national economic performance and globally correlated shocks to the economy for which the incumbent should neither be blamed nor praised (Kayser and Peress 2012). National outcomes seem to find it difficult to evade the policy outcomes of other countries; therefore, it is increasingly relevant to compare all types of performance across national borders.

Theoretically, we can understand this interest in cross-national comparisons from the perspective of the yardstick theory (Salmon 1987) and social comparison theory (Festinger 1954). Social comparison theory states that we tend to evaluate our opinions and abilities against those of others (Festinger 1954); that is, other individuals or jurisdictions are reference points for our inferences about the state of our life or country. For our purpose, other political entities, such as countries, constitute a reference point to which voters compare national outcomes and policies. From this perspective, cross-border comparisons help citizens determine whether national economic misfortunes have hit their country disproportionately compared to other countries (Mutz and Mondak 1997, p. 288). A similar idea has been popularized in economics by Salmon (1987) as the yardstick theory of economic voting, which also emphasizes cross-border comparisons. The Downsian retrospective perspective on the state of the world tends to be a noisy source of information when solely based on past *national* outcomes (Salmon 1987). Exogenous circumstances, trends, and shocks will invalidate historical comparisons when making prospective evaluations. However, similar or adjacent political jurisdictions may be a valuable source of comparative information against which the voters' own national experiences can be contrasted, and both national policies and outcomes can be vetted or discarded via this comparison to the yardstick countries (Besley and Case 1995; Gilardi 2010; Linos 2011; Kayser and Peress 2012). This concept leads us to our main prediction on the importance of cross-national comparisons for voter preferences: *voters evaluate national outcomes relative to those obtained by other countries.*

Cross-National Losses Versus Cross-National Gains

From a traditional expected utility framework, voters should symmetrically assess both increases and decreases in the factors they care about. Based on prospect theory (Kahneman and Tversky 1979) and the more general notion of reference dependence (Tversky and Kahneman 1991), voters are expected to be asymmetrical when evaluating gains and losses relative to a reference point (McDermott 2004; McDermott et al. 2008). Specifically, the asymmetry implies that individuals put more weight on avoiding losses than obtaining gains. Often this reference point is the status quo or some other past state (Levy 2003; Tversky and Kahneman 1991; Soroka 2006). A more general example of this effect is the negativity bias which implies that "negative events are more salient, potent, dominant in combinations, and generally efficacious than positive events" (Rozin and Royzman 2001, p. 297). In psychology the negativity bias finds consistent support in studies of human perception and decision making (Baumeister et al. 2001; Rozin and Royzman 2001). In political science, the negativity bias denotes how voters punish losses without giving equal praise for gains of a similar magnitude (Mueller 1973; Bloom and Price 1975; Lau 1982; 1985; Soroka 2006; Boyne et al. 2009). The economic voting literature finds some support for a negativity bias in voter behavior. Mueller (1973) reports that only decreases in unemployment affect US presidential popularity. Bloom and Price (1975) find that incumbent members of the US president's party lose seats during recessions but do not gain seats in equally good times. Soroka (2006) finds that the negativity bias is present in both media and public responsiveness to economic shifts. In a more recent study, Kappe (2013) finds support for a negativity bias in how changes in macroeconomic conditions affect government popularity in the United Kingdom.

The existing studies on the negativity bias in the political science all rely on historical changes, i.e., that the economy is either worsening or improving relative to previous periods in time. However, losses and gains can also be seen in terms of the performance relative to that of other countries. We can therefore expect voters' cross-national yardstick comparisons to be influenced by a similar asymmetry. The implications are that voters will not evaluate an advantageous standing relative to other countries as positively as they will dislike a disadvantageous one. A distinct social comparison argument for this notion can be derived from the relative deprivation theory. Relative deprivation denotes the discontent of lagging behind or experiencing a discrepancy to others (Stark and Taylor 1989). Studies of happiness and wealth find similar negative effects for being less well-off or happy than others (Brickman and Campbell 1971; Lyubomirsky and Ross 1997; Diener 2000). Given these theoretical propositions, we expect a similar pattern for voters who use cross-national comparisons: *voters evaluate cross-national comparative losses as more important than cross-national comparative gains.*

Traditional Explanations For Prospective Evaluations: Sociotropic and Egotropic Concerns

The economic voting literature discuss if voters give more weight to retrospective or prospective evaluation of the economic. Some studies find more weight to retrospective elements (Lanoue 1987; Norpoth 1996) while others find evidence for prospective evaluations (Sanders 2000; Lewis-Beck 1988). In a recent review article Lewis-Beck and Stegmaier (2013) find mixed evidence of the relative strength of retrospective and prospective evaluation of the economy. Singer and Carlin (2013) point to that prospective evaluation is strong if the incumbent is new in office whereas retrospective evaluation is strong if the incumbent has a longer track record in office. Van der Brug et al. (2007, p. 181) find that prospective evaluations are stronger if the responsibility for the economic condition is unclear. Michelitch et al. (2012) show how prospective evaluations are conditioned on election outcomes. We contribute to this research by applying a design that is purely prospective as we investigate voters' use of cross-national yardstick comparison and validate these evaluation up against classic sociotropic and egotropic concerns.

Yet another discussed topic in the field of economic voting is the extent to which voters rely on sociotropic or egotropic motives when determining their political preferences. Economic voting theory assumes that voters maximize their utility. This theory attempts to explain political choices based on voters' assessments of the national economy and their own personal economic situation (Alvarez et al. 2000; Borre 1997; Dorussen and Palmer 2002; van der Eijk et al. 2006). In this sense, economic voting highlights that politics is about tradeoffs between various alternatives. When voters decide where to cast their vote, they tradeoff between different political accomplishments, future deeds, and assessments of the respective "wrappings" and "messengers". Voters choose the political ideas that provide the greatest future utility; this is the classic Downsian proximity model of voting (Downs 1957). Economic voting research often assumes that voters hold the government accountable for the economy. Today much research point to the that the national economy dominate personal finances motives, i.e., sociotropic motives are stronger than egotropic motives (Lewis-Beck and Paldam 2000; Stubager et al. 2013; Singer and Carlin 2013; Borre 1997). Nonetheless, from a rational economic approach, voters should be egotropically motivated because they maximize their utility through personal finances.[1] In our choice experiment we apply the classic distinction between egotropic (e.g. individual absolute tax increase) and sociotropic (e.g. general increase in unemployment) to serve as a validation of our yardstick measure (e.g. comparing cross-national development). This also allow us to compare the relative strength of egotropic, sociotropic and yardstick motives. Furthermore, we expect that in the context of prospect and negativity bias theories, we will find a similar negativity bias for the prospective evaluation of national sociotropic and egotropic concerns.

Data and Design: A Choice Experiment with a Nationally Representative Sample

To test our hypotheses on cross-national comparisons, we conducted a choice experiment using a large representative sample of Danish voters. The experiment was embedded in the Danish National Election Study of 2011 (DNES 2011). DNES 2011 was collected primarily through face-to-face interviews and some Computer Assisted Web Interviews (CAWI) of 2,078 representative Danish voters in the autumn and winter of 2011 following the parliamentary election on the 15th of September 2011.[2]

Conducting an experimental test of the proposed prospective cross-national evaluations is not straightforward. Given the proposed hypothesis, we are confronted with the challenge of simultaneously testing voter preferences for a host of potentially correlated factors. If the hypotheses are tested independently via

[1] It should be noted that Kinder and Kiewiet (1981, p. 132), Kramer (1983) and latest Kiewiet and Lewis-Beck (2012) all point to that a sociotropic vote not necessary should be interpreted as an indicator for that voters set aside their self-interest. As e.g. improvement of the national economy can in many ways be in voters' self-interest. I.e. a sociotropic vote may be self-interested.

[2] In addition, we carried out a large pilot study in the spring of 2011 to conduct a preliminary test of the various items (CAWI; $n = 1{,}141$). This pilot study provided the same conclusions as the conclusion we focus on here from the larger face-to-face study. Thus, the results are robust across modes and time.

individual questions or a set of questions, we do not capture the actual tradeoffs that voters must make in the real world, where political parties or candidates represent a bundle of policies or policy outcomes. When a candidate promotes a certain policy or policy outcome in one area, this candidate will often also promote a certain outcome or policy in another area as well. Therefore, a voter's choice cannot be disentangled from these policies and outcomes. To overcome this challenge, we propose a choice experimental design to determine prospective voter evaluations. A choice experiment is an efficient and validated method for determining preferences. The choice experimental method was first applied in psychometrics and marketing (Wittink and Cattin 1989; Johnson 2007) but has become a standard, validated method in a number of economic disciplines (Bennett and Blamey 2001; Louviere et al. 2000; Ryan and Gerard 2003). Recently, this technique has been used in political science (Hainmueller et al. 2014; Bechtel et al. 2012; Hansen and Bech 2007, 2012). In our case, the respondents are asked to choose between several sets of choice sets, each described by scenarios defined by a number policies or policy outcomes herein called attributes. The levels for each attribute change across the scenarios and choice set. The respondents are asked to choose among a choice set of scenarios and pick their preferred scenario among the presented scenarios in a given choice set. The attribute levels for each scenario are assigned by the researcher and statistically designed in such a way that they are uncorrelated. Each respondent is assigned several choice sets. From the respondents' choices amongst the scenarios, it is possible to disentangle the relative importance of each attribute. Estimations are then made using conditional logistical regressions—an extension of multinomial logistical regression in which the dependent variable (the choice between scenarios) varies according to the attribute defining the scenarios.

In our setup, the voters in the choice experiment must choose between various hypothetical scenarios consisting of bundles of future (prospective) policies and outcomes that policy makers can affect. Using this choice experiment setup, we can estimate the underlying utility function for voters, i.e., the relative importance of each attribute in the various bundles. The idea behind the discrete comparison of scenarios in the choice experiments is that the voters can more easily choose between a few scenarios than specify the relative importance, e.g., the weights attached to each attribute. Furthermore, asking respondents to compare groups of attributes rather than asking a series of distinct questions about each individual attribute not only provides statistical efficiency but also makes the task cognitively easier for the respondents. The choice experiment in this article requires voters to choose one of three plausible scenarios in each choice set. The scenario combinations are constructed so that there is a tradeoff between the attributes describing future economic developments. Table 1 presents an example of the information that the respondents are confronted with during the experiment. Initially, respondents are presented with a short text that frames how politicians are going to affect future societal development via their choices. The respondents are then asked to state which of the three scenarios in the choice set they prefer when compared to the current state of society.

Again, the benefit of the stated preference method is that the researcher can control the attributes and attribute levels. The attributes and attribute levels in the

Table 1 Example of a choice experiment set from the Danish National Election Study

Politicians are going to affect how society develops through their decisions over the next few years. Imagine that the state of society in three years is as described below in alternatives A, B, or C compared to today. Do you prefer alternative A, B, or C?

	Alternative A	Alternative B	Alternative C
Pension age: reforms change the average pension age by…	1-year increase	No change in pension age	2-year increase
Unemployment: the number of unemployed has changed by…	50,000 fewer unemployed	100,000 fewer unemployed	50,000 more unemployed
Growth: the wealth of the nation has increased by…	6 %	0 %	3 %
Tax: reforms affect your taxes, so you have to pay…	Same amount as today	3,000 DKK less a month	1,000 DKK less a month
Comparison: the economy has developed so that…	Danes and Swedes are equally rich	Danes have become richer than the Swedes	Swedes have become richer than the Danes
I prefer alternative A $\square_1$			
I prefer alternative B $\square_2$			
I prefer alternative C $\square_3$		I prefer none of these alternatives $\square_4$	

Each respondent is confronted with three of these questions in which the attribute level varies revealed choices are often so highly correlated that it is difficult to disentangle why voters chose a specific party or candidate and is impossible to determine the importance of each attribute based on the choice of the voter. As presented in Table 1, the choice experiment includes five attributes that cover different policies and outcomes including the main proposition for cross-national comparison. Each attribute contains a number of levels corresponding to different losses, gains, or status quo changes for each policy or outcome attribute. The attributes are selected on the following basis.

To test the importance of cross-national comparisons, we included an attribute on the relative wealth of Danes compared to Swedes. This attribute states three different relative wealth levels between average Danes and Swedes: Danes have become richer than Swedes, Danes and Swedes are equally rich, and Swedes have become richer than Danes. These levels contain both losses and gains relative to Swedes to account for the expected asymmetry. Given the expected loss aversion, we predict that voters will have a stronger preference for avoiding the state in which Swedes become more wealthy than Danes than the reverse 'gain frame' in which Danes become richer than Swedes. A priori, we expected Sweden to be the most fitting yardstick for Danish voters as Swedish policy outcomes are often contrasted in the national media with those of Denmark. At the anecdotal level, the media portrays the idea that Denmark should perform at least as well as Sweden. For instance, Danish and Swedish economic performances during the economic downturn of 2009 were contrasted in Danish media.[3] In the DNES survey, we included an open-ended question in which the respondents were asked to name a country that Denmark should aspire to compare itself with. The results confirmed our a priori idea of Sweden as the go-to yardstick for Danes. Of all respondents, 20 % pointed to Sweden as the most fitting yardstick for Denmark (incl. 35 % "don't knows", $n = 1{,}969$), with the highest percentage for any single country (Norway came in second with 15 %, followed by Germany with 10 % and the USA with 3 %).

Traditional sociotropic and egotropic concerns are tested by comparing the importance of changes in general unemployment and economic growth to the respondents (i.e., sociotropic concerns) versus changes in personal taxation (i.e., egotropic concerns). Thus, the choice experiment applied in this article contributes to the discussion of egotropic versus sociotropic motivation by forcing the respondents to make tradeoffs based on bundles that reduce/increase general unemployment and economic growth for a specific increase/decrease in personal taxation. Unemployment is considered one of the "big variables" in economic voting and is one of the few for which macro trends are reflected in voters' micro

[3] A search on InfoMedia.dk, a database of articles from all Danish news media, confirms that during the campaign, a few news stories did in fact discuss the Danish economic development, comparing it to the neighboring Sweden. Search key "Sverige"+"Danmark"+"økonomisk+"vækst"+"svenskerne"—27 Aug 2011–15 Sep 2011. E.g., "Svenskerne er rigere end danskerne (Swedes are richer than Danes)" Ekstra Bladet 8/9-11, "Derfor slår Sverige os på konkurrencen (This is why Sweden beat us)" Business.dk 10/9-11 and "Økonomer: Lær af Sverige (Economists: Learn from Sweden)" Agenda 8.9.-11. However, the stories never surfaced as top stories, managed to set a general news agenda across the news media, or were reported in the TV news.

perceptions (Lewis-Beck and Paldam 2000, p. 117). When wording the unemployment attribute, we referred to general changes in the number of unemployed across the country to evoke the intended sociotropic content of the attribute (Kinder and Kiewiet 1981). In addition, the use of actual numbers evokes a more absolute and solely national tone for the attribute. This tone stands in sharp contrast to the relative and cross-national wording of the Denmark versus Sweden comparison. Specifically, voters are presented with five different levels of changes to unemployment: 100,000 more unemployed, 50,000 more unemployed, no change, 50,000 fewer unemployed, and 100,000 fewer unemployed. Since 1990, the average yearly swing in unemployment has been approximately 25,000. During the economic crisis from January 1st 2009 to January 1st 2012, unemployment rose by some 80,000 people—changing from 5 to 8 percent of the workforce (Goul Andersen 2013). Thus, with the three-year time span outlined in the experiment, a change in unemployment of 50,000 is somewhat lower than recent developments but is still plausible.

For national economic growth, we included three levels of change: 6, 3, and 0 %. While the current crisis has generated negative growth estimates, we did not expect negative growth to be a realistic outcome for the 3-year time span outlined in the text. We also considered this item as a primarily sociotropic concern as it highlights the wealth of the country rather than of individuals. We include five levels of different changes to the monthly taxes paid by voters as well: increase by 3,000 DKK (535$), increase by 1,000 DKK (178$), no change, decrease by 1,000 DKK (178$), and decrease by 3,000 (535$).[4] Both personal and individual taxation attributes are widely used as egotropic measures. By stating the tax changes in actual dollar amounts, we attempted to emphasize the actual effect on an individual's pocketbook rather than any general altruistic reason that might also increase individual taxation.

Third, to test for the different weights given for losses and gains, we include both gains and losses for the unemployment and personal income tax attributes. That is, the unemployment rates and personal income tax are allowed to both increase and decrease in the various scenarios. Given our hypothesis, we expect that voters will prefer to avoid increased unemployment and taxation more than increased employment and decreased taxes. Finally, we include a change in the age for public retirement benefits as an important control attribute. The retirement age has three levels of change: 2 years more in the labor market, 1 year more in the labor market, and no change. The retirement age was an important issue in the Danish 2011 election (Hansen and Goul Andersen 2013). Prior to this election, a major reform was suggested by the majority in parliament, and the main opposition parties ran on a platform of avoiding this reform. This attribute was thus included to increase the ecological validity of the choice sets for future reforms. Leaving out this item would likely have caused various unmeasured assumptions about future retirement reforms amongst respondents. In addition, retirement age is seen as a central policy measure for current and future welfare state reforms. All of the five attributes are presented in Table 2, along with their respective levels and the hypothesis they were intended to test.

[4] The exchange rate at the time of the study was approximately 5.6 DKK per USD.

Table 2 Hypotheses, attributes, and levels

Hypothesis	Attribute	Levels
Cross-national yardstick comparison	Comparison: The economy has developed so that…	Danes have become richer than Swedes
		Danes and Swedes are equally rich
		Swedes have become richer than Danes
Sociotropic	Unemployment: The number of unemployed has changed by…	100,000 more unemployed
		50,000 more unemployed
		Same number of unemployed as today
		50,000 fewer unemployed
		100,000 fewer unemployed
Sociotropic	Growth: The wealth of the nation has increased by…	0 %
		3 %
		6 %
Egotropic	Tax: Reforms affect your taxes, so you have to pay…	3,000 DKK less a month
		1,000 DKK less a month
		Same amount as today
		1,000 DKK more a month
		3,000 DKK more a month
Sociotropic	Pension age: Reforms change the average pension age by…	No change in pension age
		1-Year increase
		2-Year increase

Developing a Choice Model for Prospective Policy Preferences

The different values for the five attribute levels provide a total of 675 scenarios ($3 \times 5 \times 3 \times 5 \times 3 = 675$) that can be combined as a three-way comparison in 306,181,350 ($675 \times 674 \times 673$) ways. It is in no way feasible to confront respondents with all combinations. A fractional-factorial experimental design, which is a standard mathematical technique for this type of experiment, reduces the number of comparisons without inhibiting the capability of estimating the main effects of the attributes (Louviere et al. 2000; Kuhfeld 2005). This reduction into a feasible number of choice set consisting of three scenarios was accomplished in a manner that allows the attributes to remain statistically independent, i.e., uncorrelated. The attribute and scenario combinations, as designed by the researcher, guarantee that the estimates made from the respondents' choices will be unbiased by the uncorrelated attributes. This design was achieved using SAS's 'Choiceeff' macro, which maximizes the geometric mean of the eigenvalues of the matrix (i.e., D-efficiency, see Kuhfeld 2005). This procedure reduced the number of comparisons to 45 choice sets of three scenarios, while providing sufficient degrees of freedom to estimate the main effects. However, 45 comparisons are still too many to present to a single respondent; therefore, the samples were split into 15 experimental groups so that each respondent was confronted with three choice sets, each like the one shown in Table 1. In this manner, the 45 choice sets are covered without excessively burdening the respondent. The design of the 45 choices sets with three scenarios, split into 15 groups, with each respondent only confronted with three comparisons, was a pragmatic design choice based on the number of choices we thought the respondent could comprehend (number of choice sets and their complexity) and the size of the sample within each split (more splitting would increase the standard deviation of our estimates). Each respondent was randomly assign to one of the 15 groups. Statistical designs of choice experiments are described in greater detail in Louviere et al. (2000) and Bennett and Blamey (2001).

Respondents are assumed to choose their preferred future scenario based on their preferences for the attribute levels specific to each scenario. The choice between the three scenarios is assumed to be determined by the respondents' subjective valuations of those attributes. Each scenario is characterized by five attributes with $X = (x_1,x_2,x_3,x_4,x_5)$, where x_1, x_2, x_3, x_4 and x_5 refer to the level of the constituent attributes. It is assumed that the utility $U[X(x_1,x_2,x_3,x_4,x_5)]$ is additive and separable in X. Facing the choice between two scenarios, respondent n chooses scenario i over j based on the following:

$$U\left(X^i, Z_n\right) > U\left(X^j, Z_n\right) \tag{1}$$

where $U()$ represents the individual's indirect utility function, X^i and X^j are vectors of the utility-bearing attributes for each of the scenarios, and Z_n is the characteristic influencing the nth ($n = 1\ldots N$) respondent's choice of scenario. Because only the individual knows their true preference, a random utility component accounts for the inability of the analyst to accurately observe an individual's behavior (McFadden

1974). Within a random utility model (RUM), the respondents will choose i over j based on the following:

$$V\left(X^{i}, Z_{n}\right) + \varepsilon_{n}^{i} > V\left(X^{j}, Z_{n}\right) + \varepsilon_{n}^{j} \tag{2}$$

where $V(X^{i}, Z_{n})$ is the observable part of the individuals' utility function, and ε is a randomly distributed component that is unobservable to the researcher. The analyst will be unable to directly observe the utility using the choice experimental method because only the preferred scenarios are observed. The probability that the respondent will choose A over B and C is therefore given by the following:

$$P_{in} = \mathrm{Prob}\left[U\left(X^{i}, Z_{n}\right) > U\left(X^{j}, Z_{n}\right)\right] = \mathrm{Prob}\left[\left(\varepsilon_{n}^{j} - \varepsilon_{n}^{i}\right) < \left(V\left(X^{i}, Z_{n}\right) - V\left(X^{j}, Z_{n}\right)\right)\right] \tag{3}$$

The probability (P_{in}) that respondent n will choose scenario i is the limit of the proportion of times that a respondent facing a scenario with the same values and observed utility would choose that scenario. The appropriate form for the cumulative distribution of ($\varepsilon_{n}^{j} - \varepsilon_{n}^{i}$) defines the appropriate estimation technique for determining the utility difference (Train 1986). Assuming an independent and identically distributed (IID) type I extreme value distribution, a conditional logit model was used to estimate the respondents' tradeoffs between the attributes and their relative importance. The probability for choosing alternative i is given by the following, which is the familiar standard multinomial logit specification in which β is the parameter describing the importance of the X attributes:

$$P_{ni} = \frac{e^{\beta' X_{ni}}}{\sum_{j} e^{\beta' X_{nj}}} \tag{4}$$

In the conditional logit regression, the voters' choices in each choice set are entered into the regression as the dependent variable. The dependent variable is coded '1' if the scenario was chosen and '0' if not. The explanatory variables for each scenario are the attribute levels. The regression model takes into account the fact that a certain scenario was assigned to a respondent along with two other scenarios and that, thus, the choice depends on the scenario combination.

Two distinct regression models are used with different types of coding for the attributes. In model type 1, we assume that all attributes are linear in utility and are therefore coded as variables with the absolute numbers in the questionnaire. This means that unemployment, for example, was included as a single variable taking the possible absolute values −100, −50, 0, 50, and 100. An incremental change in one attribute is therefore assumed to have the same proportional change in utility independent of whether it occurred in the negative or positive portion of the scale, and incremental changes in the attributes were weighted proportionally in terms of utility independent of where on the scale the change occurred. This assumption may be too strong; therefore, model 2 runs each level of each attribute as a dummy variable with the reference category as the status quo. This nominal, and thus more flexible, model allows the different relative utilities to be estimated for negative and positive values and does not treat attributes as linear in utility.

Empirical Results

Table 3 presents the analytical results. First, we have the most basic model in which all of the attributes are assumed to influence choice linearly (called linear model). In model 2, we allow for heterogeneity in the varying effects of losses and gains by applying a nominal model (called a flexible model). Model 2 implies that for instance a 2-year increase in the pension age does not necessarily have exactly twice the effects of a 1-year increase as assumed in the linear model. The magnitude of the coefficients in model 2 can be compared since all variables have the same underlying scale (dichotomies variables). Larger magnitude implies that the attribute level has stronger impact on respondents' choice (and their underlying utility of choice). The magnitudes of the coefficients in model 1 cannot meaningfully be compared since the underlying scale of the variables differs.

We first look at model 1, which shows that scenarios including "Swedes become richer than Danes" were chosen significantly less frequently than the other scenarios. This finding supports our first hypothesis suggesting that voters value national economic development relative to other countries. The fact that the comparison attribute shows both the expected sign and a significant effect indicates that cross-national yardsticks play a role in voter evaluations.

Our second prediction stated that being "left behind" in the cross-country comparison had a larger effect on voters than being better off relative to neighboring countries. This hypothesis was tested using model 2, where the effects for gains and losses are allowed to vary for all variables (i.e., nominal independent variables rather the strong assumption of continuous independent variables and linear effects in model 1). These results are also plotted in Fig. 1. In model 2, only the difference between Swedes becoming richer than Danes versus Swedes and Danes being equally rich was significant. That is, voters put no particular value on being richer than Swedes relative to the status quo of having similar wealth between the two countries. This suggests that it is only being left behind in cross-country wealth development that affects voters; voters find future losses relative to Sweden substantially more important than relative gains. The size of this effect is substantial given that the attribute states nothing about the absolute wealth of the two countries. Thus, voters seem to rely on Sweden as a prospective yardstick for their own national performance, and this cross-national comparison is solely driven by a strong loss aversion. This finding holds even when voters are confronted with tradeoffs between yardstick performance and the dominant existing explanations of sociotropic concerns, egotropic concerns, and loss aversion.

Voters reacted to variations in the other attributes as anticipated. Voters viewed increased unemployment and taxation negatively, while increased economic growth was favored. An increase in pension age was also negatively viewed. Both egotropic and sociotropic motives simultaneously affected the voters' preferences, as shown by the significant coefficients for general unemployment, economic growth (both

Table 3 Conditional logit regressions

	Linear model	Flexible model
Swedes richer than Danes	−0.05 (0.01)***	
Higher pension age (×1 year)	−0.06 (0.02)**	
Higher unemployment (×1,000)	−0.01 (0.00)***	
Higher growth (×1 year)	0.06 (0.01)***	
Higher taxation (×1,000 DKK)	−0.11 (0.01)***	
No change in pension age		(Ref.)
1-Year-later retirement		−0.03 (0.04)
2-Year-later retirement		−0.13 (0.04)***
100,000 more unemployed		−0.87 (0.06)***
50,000 more unemployed		−0.49 (0.05)***
Same number of unemployed as today		(Ref.)
50,000 fewer unemployed		0.40 (0.05)***
100,000 fewer unemployed		0.41 (0.05)***
0 % growth		(Ref.)
3 % growth		0.23 (0.04)***
6 % growth		0.35 (0.04)***
3,000 DKK monthly tax increase		−0.83 (0.06)***
1,000 DKK monthly tax increase		−0.23 (0.05)***
Same amount as today		(Ref.)
1,000 DKK monthly tax reduction		−0.04 (0.05)
3,000 DKK monthly tax reduction		−0.08 (0.05)
Danes richer than Swedes		0.03 (0.04)
Danes and Swedes are equally rich		(Ref.)
Swedes richer than Danes		−0.15 (0.04)***
Alternative specific constant	−0.68 (0.05)***	−0.95 (0.07)***
Number of choices	23,480	23,480
Number of respondents	2,021	2,021
McFadden pseudo R^2	0.104	0.117

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Unstandardized logit coefficients with their standard error in parentheses. For model 1, the status quo is always set to 0. For model 2, the status quo is the omitted (reference) category for all attributes. The standard errors account for the nesting of choice responses within voters due to clustering at the respondent level

sociotropic), and individual tax cuts (egotropic) in both models. Within the range of the attributes a 100,000 increase of employment has the strongest influence on choice (coefficient: −0.87) which is followed by a 3,000 DKK tax increase (coefficient: −0.83). A 100,000 increase of unemployed persons is equivalent to increase from an actually unemployment rate of 5.9 % (November 2011) to 9.6 % (Statistics Denmark, calculated fulltime unemployment rate, seasonally corrected). Table 3 also indicates that sociotropic influences are stronger than egotropic influences based simply on the coefficients. This finding is also supported when

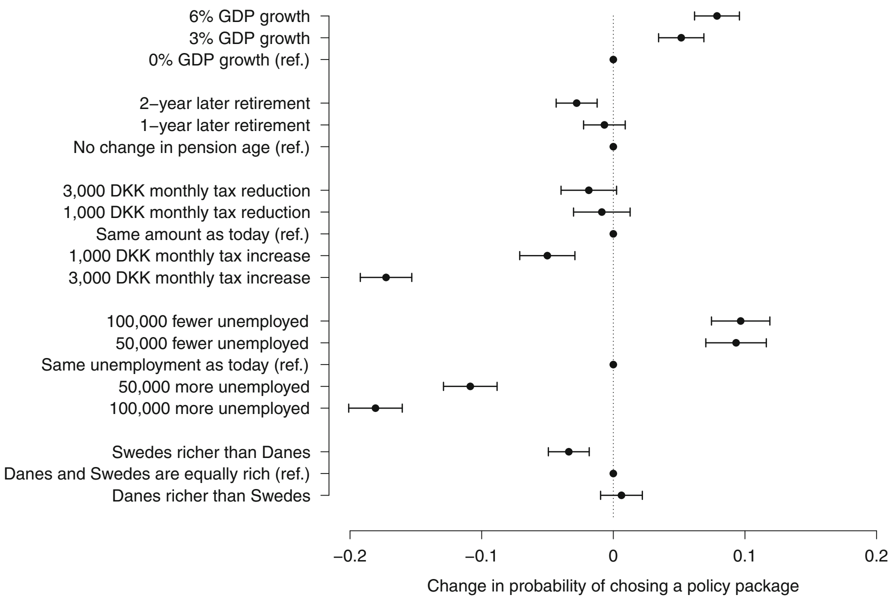

Fig. 1 Change in predicted probabilities based on coefficients from the flexible model in Table 3. *Bars* represent 95 % confidence intervals. The *dots without horizontal bars* denote the reference category for each attribute

comparing the average marginal effect or independent McFadden level if variables were included separately in different models (not shown), where general unemployment has the largest effect.

The second model allows us to determine loss aversion in the non-comparative absolute variables. We find the asymmetric response as expected as an increase in unemployment had the largest effect. Nevertheless, all unemployment coefficients are large in magnitude and highly significant for both losses and gains. Both avoiding unemployment and increasing employment is thus rated highly by voters despite the slightly larger effect for increasing unemployment. This finding strongly supports the importance of sociotropic concerns. For increasing unemployment, the voter responses are largely proportional for increases of 50,000 and 100,000 unemployed. For employment, we find some evidence of a decreased marginal effect, with the additions of both 50,000 and 100,000 people to the labor market yielding similar results. We find an interesting heterogeneity in the responses for increasing taxes. Voters view tax increases negatively while tax reductions have an insignificant effect. This result indicates that voters are indifferent between maintaining the status quo and experiencing minor tax decreases. For tax decreases, voters are largely indifferent between reductions of 1,000 DKK and 3,000 DKK. They are negative towards smaller tax increases and very negative of large tax increases. There large asymmetries between tax increases and decreases are very visible in Fig. 1. For economic growth, we find a positive effect for both 6 %, the largest growth rate, and 3 %. As a sociotropic measure of voter preference, growth is substantially weaker than unemployment. For pension reforms, only the largest possible increase in retirement age was viewed negatively, with a change of one year being insignificant.

Are These Results Driven by Heterogeneity in Partisanship?

Yet another advantage of the choice method is that, by contrasting the coefficients for the tax attribute, we can interpret voter preferences in terms of their marginal rate of substitutions (MRS) (see Fig. 2). These rates are calculated as how much an individual voter needs to be compensated to maintain his current utility if the described economic development occurs. As the change in the individual taxation is on a monthly basis, so is the MRS.

We found that the effect of the comparison to Sweden was substantial. Voters require a tax cut of $89 per month to accept Sweden becoming richer than Denmark. For a 1-year increase in retirement age, voters should be compensated with $95 a month. For an increase in unemployment of 10,000 people, voters should be compensated with $109 a month to maintain their current utility. For growth, voters are willing to trade $103 a month for 1 % higher growth.

This figure also contrasts the different compensations required by voters who voted for the rightwing incumbent government and those who voted for the leftwing opposition. By allowing prospective evaluations to vary with party choice we are able to test if the evaluations are aligned with the ideological position of the voters

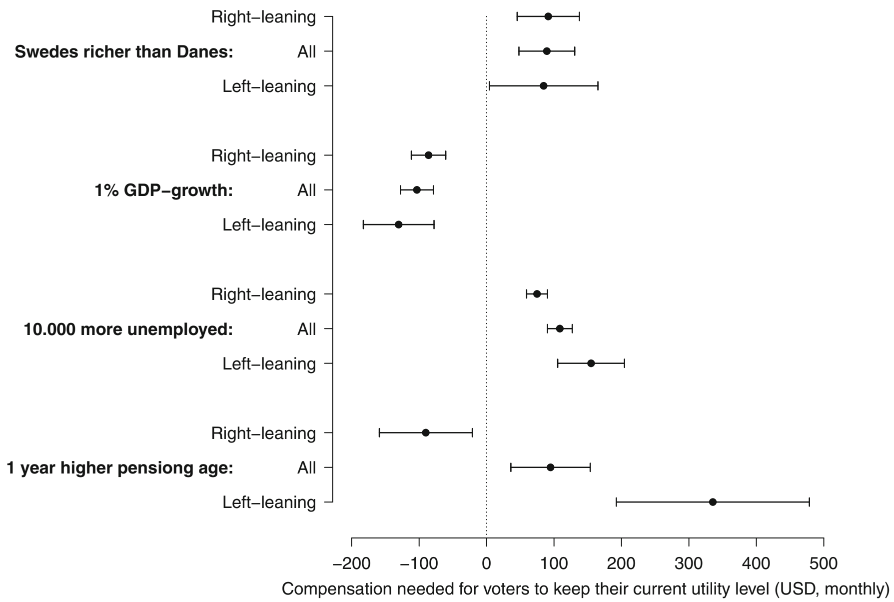

Fig. 2 Marginal rate of substitutions (MRS) with 95 % confidence intervals. The *dots* for each attribute value indicate individual estimates for right-leaning voters, all voters, and left-leaning voters

party choice. For the cross-national comparison, we find no difference between the opposition and incumbent voters, that is, the yardstick performance is equally important to voters across party affiliations. This point to that cross-national comparisons are found to be a valid yardstick across party lines. There was significant heterogeneity in the effects of the pension age attribute. While leftwing voters required a compensation of approximately $335 a month for a 1-year increase in the retirement age, rightwing voters were willing to give $90 to reduce the retirement age. This diverging preference stems from the fact that the retirement age was one of the main issues in the election with clear ideological divides between the incumbent and opposition parties. Interestingly, these divides are also echoed in prospective evaluations. Another significant difference was found for the value given to avoiding unemployment. Leftwing opposition voters report a greater loss than rightwing voters due to increased unemployment. This trend corresponds to the idea that leftwing voters traditionally have a strong issue of ownership in employment and an electoral base in the labor unions. Overall, the voter-party interactions lend credibility to the overall validity of both this model and the design of the choice experiment in general. The ideological differences found for voters' emphasis on unemployment and pension reforms vary as one would expect for left-leaning and right-leaning voters.

Discussion and Conclusion

We have shown the importance of cross-national comparisons in voter evaluations of prospective outcomes. Using a choice experiment, we proposed a way to disentangle highly correlated preferences such as cross-national comparisons, sociotropic concerns, egotropic concerns, and the difference between losses and gains. We found strong support for the importance of cross-national performance to voters. Even when presented with very tough tradeoffs to sociotropic concerns, egotropic concerns, and a variety of both losses and gains, voters put substantial weight on how the national economy performs compared to a relevant yardstick country—in this case, the neighboring country of Sweden. Interestingly, this cross-national comparison was entirely driven by loss aversion. Voters are very keen on not falling behind in terms of relative wealth compared to neighboring Sweden. These findings provide experimental support for the recent observational studies of retrospective voting that have found similar evidence of cross-national concerns (Kayser and Peress 2012). In addition, the study extends these findings to a prospective setting. Herein also lies an important limitation to our study: that we find evidence of cross-national *prospective* evaluation which cannot directly be extrapolated to a retrospective setting. However, given that most studies find that retrospective concerns outweigh prospective ones, we argue that our analysis resembled a relatively conservative test of the potential relevance of cross-national yardstick for a retrospective setting.

Our results indicate that policy makers should pay close attention to how their national economic performance compares to that of other yardstick countries. From a campaign perspective, emphasizing cross-national differences in economic performance can be a winning strategy as it is a heuristic that voters tend to weigh strongly relative to traditional absolute economic performance indicators. For example, in a *blame game* between the incumbent and a challenger on national economic performance, a cross-national comparison would be an important cue for assessing current development. It is not implausible that cross-national comparisons are especially strong when a relevant country for comparison exists, e.g., a comparison between Denmark and Sweden might be simpler and more relevant to voters than a comparison between the US and China. Furthermore, our study indicates that unfavorable comparative outcomes in the cross-national heuristic have a strong influence and are thus important for leaders to avoid to be re-elected. Accordingly, deprivation relative to other countries should play a much greater role in future studies on public opinion in general and economic voting in particular. Yardstick theories for social comparisons have been far too absent from existing studies. These findings call for a greater emphasis on social comparisons in terms of how other countries and political jurisdictions shape voters' perceptions of performance. Studies that only focus on absolute performance cannot determine the extent to which voters factor in such relative comparative forces. Our study focused on a single cross-national comparison of Danish voters looking to Sweden. A natural extension is to gain a better understanding of what constitutes a "relevant unit" for social comparisons (Olsen 2013). A study of this sort could also unlock the mechanisms which drive (cross-national) comparisons. Is it abundance of information about another unit which makes it relevant for comparison? Or is it rather spatial, political, economic, or cultural similarities which make a yardstick relevant in the eyes of voters? Here we have taken a first step by highlighting the importance of relative cross-national comparisons for voters prospective evaluations of policies and performance.

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References

Alvarez, R. M., Nagler, J., & Willette, J. R. (2000). Measuring the relative impact of issues and the economy in democratic elections. *Electoral Studies, 19*(2–3), 237–253.

Ansolabehere, S., Meredith, M., & Snowberg, E. (2012). Asking about numbers: Why and how. *Political Analysis, 21*(1), 48–69.

Baumeister, R. F., Bratslavsky, E., Finkenauer, C., & Vohs, K. D. (2001). Bad is stronger than good. *Review of General Psychology, 5*(4), 323–370.

Bechtel, M. M., Hainmueller, J., & Margalit, Y. M. (2012). *Studying public opinion on multidimensional policies: The case of the Eurozone bailouts*. Working Paper No. 2012-27. MIT: Political-Science Department.

Bellucci, P., & Lewis-Beck, M. S. (2011). A stable popularity function? Cross-national analysis. *European Journal of Political Research, 50*(2), 190–211.

Bellucci, P., Lobo, M. C., & Lewis-Beck, M. S. (2012). Economic crisis and elections: The European periphery. *Electoral Studies, 31*(3), 469–471.

Bennett, J., & Blamey, R. (2001). *The choice modeling approach to environmental evaluation*. Cheltenham: Edward Elgar Pub.

Besley, T., & Case, A. (1995). Incumbent behavior: Vote-seeking, tax-setting, and yardstick competition. *The American Economic Review, 85*(1), 25–45.

Bloom, H. S., & Price, H. D. (1975). Voter Response to short-run economic conditions: The asymmetric effect of prosperity and Recession. *American Political Science Review, 69*(4), 1240–1254.

Borre, O. (1997). Economic voting in Danish electoral surveys 1987-1994. *Scandinavian Political Studies, 20*(4), 347–365.

Bosch, N., & Solé-Ollé, A. (2007). Yardstick competition and the political costs of raising taxes: An empirical analysis of Spanish municipalities. *International Tax and Public Finance, 14*(1), 71–92.

Boyne, G., James, O., John, P., & Petrovsky, N. (2009). Democracy and government performance: Holding incumbents accountable in English local governments. *Journal of Politics, 71*(4), 1273–1284.

Brickman, P., & Campbell, D. T. (1971). Hedonic relativism and planning the good society. In M. H. Apley (Ed.) *Adaptation level theory. A symposium* (pp. 287–302). New York: Academic Press.

Campbell, A., Converse, P. E., Miller, E. W., & Stokes, D. (1960). *The American Voter*. New York: Wiley.

Claggett, W. (1986). A reexamination of the asymmetry hypothesis: Economic expansions, contractions, and congressional elections. *Western Political Quarterly, 39*(4), 623–633.

Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. *American Psychologist, 55*(1), 34.

DNES (2011). Danish national election study 2011. www.valgprojektet.dk.

Dorussen, H., & Palmer, H. D. (2002). The context of economic voting—an introduction. In H. Dorussen & M. Taylor (Eds.), *Economic voting* (pp. 1–14). London: Routledge.

Downs, A. (1957). *An economic theory of democracy*. New York: Harper and Row.

Duch, R. M., & Stevenson, R. (2008). *Voting in context: How political and economic institutions condition election results*. Cambridge: Cambridge University.

Duch, R. M., & Stevenson, R. (2010). The global economy, competency, and the economic vote. *Journal of Politics, 72*(1), 105–123.

Festinger, L. (1954). A theory of social comparison processes. *Human Relations, 7*(2), 117–140.

Gilardi, F. (2010). Who learns from what in policy diffusion processes? *American Journal of Political Science, 54*(3), 650–666.

Goul Andersen, J. (2013). Den økonomiske udvikling op til 2011-valget. In R. Stubager, K. M. Hansen & J. Goul Andersen (eds.) *Krisevalg - Økonomien og folketingsvalget 2011* (pp. 45–59). Copenhagen: DJØF-forlag.

Hainmueller, J., Hopkins, D., & Yamamoto, T. (2014). Causal inference in conjoint analysis: Understanding multidimensional choices via stated preference experiments. *Political Analysis, 22*(1), 1–30.

Hansen, K. M., & Bech, M. (2007). De sociotropiske vælgere: Ønsket om stigende beskæftigelse betyder mere end hvem der bliver statsminister og vælgerne kan ikke købes med lønstigninger. *Politica, 39*(1), 67–86.

Hansen, K. M., & Bech, M. (2012). *Forcing voters to choose by using discrete choice experiments to estimate political preferences*. Working Paper no. 2012-3. Centre for Parties and Voting, Department of Political Science, University of Copenhagen.

Hansen, K. M., & Goul Andersen, J. (2013). En samlet model for partivalg. In Stubager, R., K. M. Hansen & J. Goul Andersen (Eds.) *Krisevalg - Økonomien og folketingsvalget 2011* (pp. 189–212). Copenhagen: DJØF-forlag.

Headrick, B., & Lanoue, D. J. (1991). Attention, asymmetry, and government popularity in britain. *Political Research Quarterly, 44*(1), 67–86.

Healy, A., & Malhotra, N. (2013). Retrospective voting reconsidered. *Annual Review of Political Science, 16*, 285–306.

Hellwig, T. T. (2001). Interdependence, government constraints, and economic voting. *Journal of Politics, 63*(4), 1141–1162.

Hellwig, T. T., & Samuels, D. (2007). Voting in open economies: The electoral consequences of globalization. *Comparative Political Studies, 40*(3), 283–306.

Hopkins, D. J. (2011). Whose economy? Perceptions of national economic performance during unequal growth. *Public Opinion Quarterly, 76*(1), 50–71.
Huber, G. A., Hill, S. J., & Lenz, G. S. (2012). Sources of bias in retrospective decision making: Experimental evidence on voters' limitations in controlling incumbents. *American Political Science Review, 106*(4), 720–741.
Johnson, T. R. (2007). Discrete choice models for ordinal response variables: A generalization of the stereotype model. *Psychometrika, 72*(4), 489–504.
Kahneman, D., Knetsch, J. L., & Thaler, R. H. (1991). Anomalies: The endowment effect, loss aversion, and status quo bias. *The Journal of Economic Perspectives, 5*(1), 193–206.
Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica, 47*(2), 263–291.
Kappe, R. (2013). *Asymmetric evaluations: Government popularity and economic performance in the United Kingdom*. Paper presented at the EPOP conference, Lancaster University, UK.
Kayser, M. A., & Peress, M. (2012). Benchmarking across Borders: Electoral accountability and the necessity of comparison. *American Political Science Review, 106*(3), 661–684.
Kiewiet, D. R. (1983). *Macroeconomic and micropolitics: The electoral effects of economic issues*. Chicago: University of Chicago Press.
Kiewiet, D. R., & Lewis-Beck, M. S. (2012). No man is an Island: Self-interest, the public interest, and sociotropic voting. *Critical Review: A Journal of Politics and Society, 23*(3), 303–319.
Kinder, D. R., & Kiewiet, D. R. (1981). Sociotropic politics: The American case. *British Journal of Political Science, 11*(2), 129–161.
Kramer, G. (1983). The ecological fallacy revisited: Aggregate- versus individual-level findings on economics and elections, and sociotropic voting. *American Political Science Review, 77*(1), 92–111.
Kuhfeld, W. F. (2005). *Marketing research methods in sas: Experimental design, choice, conjoint, and graphical techniques*. SAS Institute, SAS 9.1 Edition, TS-722.
Lanoue, D. J. (1987). Economic prosperity and presidential popularity: Sorting out the effects. *Western Political Quarterly, 40*(2), 237–245.
Lau, R. R. (1982). Negativity in political perception. *Political Behavior, 4*(4), 353–378.
Lau, R. R. (1985). Two explanations for negativity effects in political behavior. *American Journal of Political Science, 29*(1), 119–138.
Levy, J. S. (2003). Applications of prospect theory to political science. *Synthese, 135*(2), 215–241.
Lewis-Beck, M. S. (1988). Economics and the American voter: past, present, future. *Political Behavior, 10*(1), 5–21.
Lewis-Beck, M. S., & Paldam, M. (2000). Economic voting: An introduction. *Electoral Studies, 19*(2–3), 113–121.
Lewis-Beck, M. S., & Stegmaier, M. (2013). The VP-function revisited: a survey of the literature on vote and popularity functions after over 40 years. *Public Choice, 157*(3–4), 367–385.
Linos, K. (2011). Diffusion through democracy. *American Journal of Political Science, 55*(3), 678–695.
Louviere, J. J., Hensher, D. A., & Swait, J. D. (2000). *Stated choice methods—analysis and application*. Cambridge: Cambridge University Press.
Lyubomirsky, S., & Ross, L. (1997). Hedonic consequences of social comparison: a contrast of happy and unhappy people. *Journal of Personality and Social Psychology, 73*(6), 1141–1157.
McDermott, R. (2004). Theory in political science: Gains and losses from the first decade. *Political Psychology, 25*(2), 289–312.
McDermott, R., Fowler, J. H., & Smirnov, O. (2008). On the evolutionary origin of prospect theory preferences. *The Journal of Politics, 70*(2), 335–350.
McFadden, D. (1974). Conditional logit analysis of qualitative choice behavior. In P. Zarembka (Ed.), *Frontiers in Econometrics* (pp. 105–142). New York: Academic Press.
Michelitch, K., Morales, M. A., Tucker, J., & Owen, A. (2012). Looking to the future: Prospective economic voting in 2008 presidential elections. *Electoral Studies, 31*(4), 838–851.
Mueller, J. E. (1973). *War, presidents and public opinion*. New York: Wiley.
Mussweiler, T., & Epstude, K. (2009). Relatively fast! Efficiency advantages of comparative thinking. *Journal of Experimental Psychology: General, 138*(1), 1–21.
Mussweiler, T., & Posten, A. (2011). Relatively certain! Comparative thinking reduces uncertainty. *Cognition, 122*(2012), 236–240.
Mutz, D., & Mondak, J. J. (1997). Dimensions of sociotropic behavior: Group-based judgments of fairness and well-being. *American Journal of Political Science, 41*(1), 284–308.

Nannestad, P., & Paldam, M. (1997). The grievance asymmetry revisited: A micro study of economic voting in Denmark, 1986–92. *European Journal of Political Economy, 13*(1), 81–99.

Norpoth, H. (1996). Presidents and the prospective voter. *Journal of Politics, 58*(3), 776–792.

Olsen, A. L. (2013). *Compared to What? Experimental evidence on social and historical reference points in performance evaluation*. Paper presented at the Midwest Political Association Meeting. Panel: Political Bias, Misinformation, and Conspiracy Theories. Chicago, USA.

Rozin, P., & Royzman, E. B. (2001). Negativity bias, negativity dominance, and contagion. *Personality and Social Psychology Review, 5*(4), 296–320.

Ryan, M., & Gerard, K. (2003). Using discrete choice experiments to value health care programmes: Current practice and future research reflections. *Applied Health Economics and Health Policy, 2*(1), 55–64.

Salmon, P. (1987). Decentralisation as an incentive scheme. *Oxford Review of Economic Policy, 3*(2), 24–42.

Sanders, D. (2000). The real economy and the perceived economy in popularity functions: how much do voters need to know? A study of British data, 1974–1997. *Electoral Studies, 19*(2), 275–294.

Singer, M. M., & Carlin, R. E. (2013). Context counts: The election cycle, development, and the nature of economic voting. *Journal of Politics, 75*(3), 730–742.

Soroka, S. N. (2006). Good news and bad news: Asymmetric responses to economic information. *The Journal of Politics, 68*(2), 372–385.

Stark, O., & Taylor, J. E. (1989). Relative deprivation and international migration. *Demography, 26*(1), 1–14.

Stubager, R., Botterill, N. W., Lewis-Beck, M. S., & Nadeau, R. (2014). Scope conditions of economic voting: The Danish exception? *Electoral Studies, 34*(1), 16–26.

Stubager, R., Hansen, K. M., & Goul Andersen, J. (Eds.). (2013). *Krisevalg - Økonomien og folketingsvalget 2011*. Copenhagen: DJØF-forlag.

Train, K. E. (1986). *Qualitative choice analysis: Theory, econometrics, and an application to automobile*. Cambridge: The MIT Press.

Tversky, A., & Kahneman, D. (1991). Loss aversion in riskless choice: A reference-dependent model. *The Quarterly Journal of Economics, 106*(4), 1039–1061.

van der Brug, W., van der Eijk, C., & Franklin, M. (2007). *The economy and the vote: Economic conditions and elections in fifteen countries*. New York: Cambridge University Press.

van der Eijk, C., van der Brug, W., Kroh, M., & Franklin, M. (2006). Rethinking the dependent variable in voting behavior: On the measurement and analysis of electoral utilities. *Electoral Studies, 25*(3), 424–447.

Vavreck, L. (2009). *The message matters—the economy and presidential campaigns*. Princeton: Princeton University Press.

Vermeir, J., & Heyndels, B. (2006). Tax policy and yardstick voting in Flemish municipal elections. *Applied Economics, 38*(19), 2285–2298.

Wittink, D. R., & Cattin, P. (1989). Commercial use of conjoint analysis: An update. *Journal of Marketing, 53*(3), 91–96.